REMARKS

In the Office Action dated April 2, 2004, claims 1-12 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schaefer et al and Feller. Claims 13, 15 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schaefer et al, Feller and Meier et al.

Claim 1 has been amended to distinguish the subject matter thereof over the teachings of the Schaefer and Feller references, however, before discussing the details of these amendments, Applicant will address the Examiner's position that it would have been obvious to a person of ordinary skill in the field of graphics displays to modify the display disclosed in the Schaefer et al reference in accordance with the teachings of Feller.

The display disclosed in the Schaefer et al reference represents various parameters or measurement values in sectors of a regular polygon, wherein the polygon has a predetermined shape representing "normal" or "target" values for these parameters. As the parameters vary, the shapes of the sectors are distorted, however, the distortion occurs in a specific way, which is intended to convey specific information to a viewer. The sectors in the Schaefer et al reference are displayed respectively between intersecting axes, with each axis representing different units, such as temperature, pressure, flow, relative percentage, etc. The segments are specifically arranged in the polygon next to each other so that it is meaningful for adjacent sectors to share the axis that proceeds between the sectors. When the sectors are distorted in shape due to the changing values, as shown in Figures 5 and 6 of the Schaefer et al reference, the distortion occurs by changing the peripheral edge of that sector along the appropriate axis. The size or shape of each sector,

therefore, is dependent on respective values for the two axes that define that sector. The parameter represented by the sector may possibly change along only one of these axes, thereby causing that sector to have an irregular shape, as indicated in Figures 5 and 6.

Distorting the shapes of the respective sectors in the Schaefer et al reference in this manner (i.e. with respect to specific values along two axes) is essential for conveying the intended information in the Schaefer et al display. Deviating from this manner of displaying the sectors would necessarily result in a loss of the information that is intended to be conveyed. In other words, the arrangement of the sectors along the specific axes, and the manner by which the shapes of the sectors are distorted, are both essential in the Schaefer et al reference in order to convey the information in the intended manner.

If the Schaefer et al display were modified, even conceptually, to have an appearance close to that of the Feller display, this would necessarily result in a completely different manner of displaying the information, and would not display the same information with the same level of clarity, and inter-relation between adjacent sectors, as in the Schaefer et al reference.

In the Feller reference, different parameters are displayed also as sectors of a circle, but the sectors are not of a constant angular size. Both the angular size and the radial size in the Feller reference is varied dependent on the information that is to be displayed. The angular size is varied or selected dependent on the relative importance of the parameter represented by that sector, and the radial size changes dependent on the magnitude of the sector. Moreover, although a circle of a selected radius can be included in the Feller display as representative of "normal" or "target"

values for the various parameters, with the radial sizes of the sectors than being normalized to each other so as to be referenced to this circle of constant radius, there is no teaching in the Feller reference that the various sectors are ever all displayed together within this circle of constant radius. In the Schaefer et al reference, as in the subject matter of the present application, it is important that the viewer have a "template" of the values represented by the respective sectors at their "normal" levels, so that the viewer can, at a glance, determine from the display whether and which parameters have deviated from these normal values. This is not usually accomplished in the Feller reference, merely by displaying a circle of a constant radius.

Modifying the Schaefer reference to have an appearance more closely resembling that of the Feller reference would preclude display of the same information in the same manner as is intended in the Schaefer et al display. It is important in the Schaefer et al display that the aforementioned distortions of the sector shapes occur with respect to specific values along the two axes defining each sector. This is not able to be accomplished in the Feller reference, wherein the radial size of the sector is increased or decreased without a relationship to specific values along the respective axes defining the sector.

Independent claim 1 has been amended to make clear that each sector has a constant angular size, unlike the sectors in the Feller reference which, as noted above, are varied both in angular size and in radial size. It is true that in the subject matter of the present application the sectors do not all have to be of the same angular size (see Figure 5 of the present application, for example). Nevertheless, once a sector is displayed with a particular angular size, this angular size remains

constant for that sector, and only the radial size is varied. Moreover, claim 1 states that the radial size is varied uniformly, in contrast to the non-uniform variation in sector size that occurs in the Schaefer et al display. Claim 1 also has been amended to state that the variation starts from the size of the polygon that represents the normal data.

Lastly, independent claim 1 has been amended to make clear that the sectors are displayed without inter-relation to each other, further distinguishing the subject matter of claim 1 over the teachings of Schaefer et al, wherein it is essential that adjacent sectors share a common axis that represents a value that is meaningful to the respective parameters represented by the adjacent sectors.

Since there are a limited number of ways in which information can be displayed in sectors, it is not surprising that individual concepts embodied in the display of claim 1 of the present application can be separately found in various prior art reference. For the reasons noted above, however, modifying those references in view of each other unavoidably lessens, or at least significantly changes, the information that is conveyed to the viewer. Each display has been designed to convey specific information in a specific manner for a specific purpose, and those of ordinary skill in the field of graphics display recognize that one cannot arbitrarily change the details of a display without also changing the informational content thereof. The present inventor has had the insight to combine a number of different display concepts in a particular manner. Even though some of these concepts may be individually known in separate prior art references, there is no teaching in any of those references to guide a person of ordinary skill in the field of graphics display design to select only the "right" features from one reference for combination with the

"right" features from another reference. Only the present disclosure provides such a roadmap for employing the particular design features set forth in claim 1. Moreover, as noted above, departing from the intended display presentations in the Schaefer et al and Feller references would result in a loss of the ability to convey the intended information, and therefore would be a modification that would destroy the intended purpose of both of those references. Such a modification is not a permissible basis for substantiating a rejection under 35 U.S.C. §103(a).

Editorial amendments have been made in certain of the claims depending from claim 1 consistent with the changes made in claim 1. For the above reasons, Applicant respectfully submits that the subject matter of claims 1-12 and 14 would not have been obvious to a person of ordinary skill in the field of graphics display design under the provisions of 35 U.S.C. §103(a).

As to claims 13, 15 and 16, separate arguments for patentability are presented with regard to those claims.

Claim 13 has been amended to make clear that both the aforementioned regular polygon and an additional regular polygon are simultaneously displayed. In claim 15, these simultaneously displayed polygons are overlaid in a stack, with the polygon having a largest deviation between the signal data and the normal data being disposed at the top of the stack.

In claim 16, one of the polygons is displayed in a larger format than the other.

The Examiner relied on the Meier et al reference as providing teachings which the Examiner stated are comparable to claims 15 and 16, however, Applicant disagrees. Applicant acknowledges that the Meier et al reference teaches that different polygons can be displayed overlaid on one another, however, there is no

teaching in the Meier et al reference that the top most displayed polygon represents the largest deviation from normal data, as set forth in claim 15. The passages cited by the Examiner in the Meier et al reference on this point at column 2, lines 40-45 and column 8, lines 1-15 merely refer to stacking in general, however, this appears to be to allow differences in the shapes of the overlaid polygons to be more readily seen, and there is no teaching that the sequence in which the polygons are overlaid is of any importance.

As to the display in different size formats, the Examiner cited column 5, lines 10-40 in the Meier et al reference as providing a teaching that the hash marks of the axes can be changed in a selective manner by the user, and this then changes the displayed size of the polygon. There is no teaching in the Meier et al reference, however, that multiple polygons are, or even can be, displayed simultaneously in different size formats. The passage in the Meier et al reference cited by the Examiner appears to be describing initial settings which can be made by a user dependent on the type of information that is to be displayed in each polygon. The user can select the gradations for the axes of the polygon dependent on this information. For example, if temperature in Celsius is to be displayed, it may be that the hash marks on one of the axes must be divided between 0 and 100, but such a fine division might not be necessary to display some other parameter. Once the hash mark divisions are selected, however, the size of the display is completely dependent on the current value of the displayed parameter. Therefore, selecting the hash mark gradations, or even the maximum has mark value for a particular axis, is not the same as selecting a size format. Moreover, since claim 16 depends from claim 14, this means the polygons in the respectively different size formats must be

simultaneously displayed, and there is no teaching to do so in the Meier et al reference.

Claim 14 depends from claim 1 and therefore embodies all of the content of claim 1 therein, and claim 13 is therefore patentable over the teachings of Schaefer et al, Feller and Meier et al for the reasons discussed above in connection with claim 1. These arguments apply to claims 15 and 16 as well, in addition to the aforementioned specific arguments relating to the teachings of the Meier et al reference.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is therefore respectfully requested.

Submitted by,

(Reg. 31,870)

SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.

CH1\ 4158033.1